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Prepared For

Virginia Council on the Environment
Virginia Coastal Resource Management Program
Grant No. NA170Z0359-01

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The Progression of "No Discharge Zone" Status in Water Bodies across the Continental United States

Introduction

California, Minnesota, Michigan, Wisconsin and Texas all had no discharge zone (NDZ) laws in effect prior to the Federal Government's attempt to regulate vessel sewage via the Clean Water Act. Today, vessel sewage discharges are regulated under Section 312 of the Clean Water Act, entitled "Marine Sanitation Devices." The section details requirements for marine sanitation devices (MSDs) on boats and enables states to apply to the EPA for the authority to prohibit discharges of all boat wastes, whether treated or untreated. MSDs are holding tanks or treatment and discharge systems that are classified by the U.S. Coast Guard as either Type I, Type II or Type III MSDs. It was during the mid-1970's that the Coast Guard issued the MSD regulations. **Type I MSDs** (acceptable only for boats 65 feet or less in length) produce effluent no greater than 1000 fecal coliform parts per 100 ml, and have no visible floating solids. A **Type II MSD** (required on boats over 65 feet) produces effluent no greater than 200 fecal coliform per 100 ml, and have suspended solids not greater than 150 mg/l. **Type III MSDs** are no discharge systems, and are designed to prevent the overboard discharge of any treated or untreated sewage; the most common is the holding tank which requires sewage disposal via a pump-out facility. Type III MSDs include recirculating and incinerating toilets. Type III MSDs are the only type permissible for use in areas designated by the EPA as no discharge areas. The EPA may grant no discharge status to those water bodies that are particularly sensitive to contamination and will therefore benefit from a complete prohibition of all vessel sewage discharges. Sections 312(f)(3) and (f)(4) (Appendix A) describe the statutory requirements for a no discharge zone (NDZ). If an application from a state is approved by the EPA, the discharge of all sewage, whether treated or not, is prohibited within the area designated. Approval, however, depends upon the state's ability to provide a sufficient number of pump-out facilities. Although there is no set ratio to determine the required number of pump-out facilities necessary to serve a given number of boats, the EPA Region I (Boston, MA) has suggested a range ratio of one pump-out facility per 450 boats with MSDs. The U.S. Coast Guard is responsible for enforcing MSD regulations and standards. However, when a state's application for no discharge status is approved by the EPA, enforcement of the no discharge standard becomes the responsibility of the state.

Standards promulgated pursuant to Section 312(f)(3) are found in 40 CFR Part 140.4 (Appendix B). EPA Region I clarifies some of these requirements in "Guidance for States and Municipalities Seeking No-Discharge Area Designation for New England Coastal Waters" (Appendix C).

New England: Massachusetts

Contacts: Mel Cote, EPA Region 1 (Boston, MA); Brian Donahoe, Water Pollution Control Board, MA.

The first eastern coastal NDZ was granted to Massachusetts. The coastal waters of Wareham, Massachusetts, in the northwest corner of Buzzards Bay, acquired no discharge status early in 1992. Massachusetts' Water Pollution Control Board cooperates with the EPA guidelines and relies on public-generated concern to initiate the application process. Several New England states have expressed an interest in pursuing no discharge status for selected coastal areas. Applications for NDZ status for any New England coastal waters from Maine to Connecticut are submitted to EPA Region I headquarters in Boston (Appendix C). Nantucket Island and Block Island, for example, have recently received NDZ status.

New Hampshire

Contacts: Dick Flanders, New Hampshire Biological Bureau; Bob Baczynski, Permits, Dept. of Environmental Services.

New Hampshire was the first state on the East Coast to designate its freshwater bodies, such as Lake Winnepesaukee, as NDZs. The state is now being encouraged by the EPA to do the same with their coastal waters. Great Bay is one coastal area currently considered for designation as an NDZ. Its proposal is supported by the National Estuarine Reserve; to date, however, there is an insufficient number of pump-out facilities.

The state has recently upgraded all of its 'Class C' water bodies to 'Class B' (refer to Appendix D for definitions) in an effort to improve water quality. The New Hampshire Revised Statutes Annotated (Ch. 487-1 to 487-14) contain the state's administrative codes regarding marine pollution, marine toilets and disposal of sewage from boats. In addition to this legislative process, pollution studies and public awareness have been essential ingredients in initiating efforts towards NDZ designations.

Vermont

Contact: Sgt. Buck, Vermont State Police, Marine Division.

Only two water bodies in Vermont have NDZ status: Lake Champlain and Lake Memphramagog (both shared with Quebec). The Vermont Department of Natural Resources regulates and issues permits. The State Police of the Marine Division enforce holding tank regulations. The U.S. Coast Guard is stationed on Lake Champlain; once or twice a year, the Coast Guard is stationed on Lake Memphramagog to enforce the MSD regulations on these international waters.

Florida

Contacts: Jim Bottone, Domestic Wastewater, Dept. of Environmental Regulation; Peggy Matthews, Florida Keys Marine Sanctuary.

Destin Harbor, on Florida's Gulf Coast, has been designated as an NDZ. In 1988, the state legislature passed a law, effective October 1993, prohibiting sewage dumping from trains, planes, boats and automobiles. Sewage disposal suddenly became of great concern after an Amtrak train, crossing a bridge, dumped its raw sewage upon two fishermen in the St. John's River, near Jacksonville. (Amtrak trains were programmed to dump their sewage from the holding tanks when the train had reached an arbitrary speed, one that is usually used outside cities and populated regions.) The law then expanded to encompass all types of transportation. In general, no discharge status appears to progress on a case-by-case basis. The Department of Environmental Resources and the EPA, as well as other agencies such as NOAA, the Water Management District, the Florida Keys Aqueduct Authority and the Florida Game and Fish Commission, are working together under the Water Quality Protection Program to help preserve the Keys as a marine sanctuary. NDZ status is automatically granted under the Florida Keys National Marine Sanctuary Act, which takes effect at the end of 1993 and will encompass state waters. The U.S. Coast Guard is responsible for monitoring federal waters.

California

Contacts: Steven Hill, Deborah Jayne and Pete Michael, California Regional Water Quality Control Board, San Diego Region; Janet Hashimoto, EPA Region 9 (L.A.); Brian Bray, Assistant Harbor Manager, City of Avalon.

The majority of coastal NDZ's designated under Section 312(f)(3) are located in California. California appears to have been the first state to seriously address the problem of sewage discharge into water bodies. Hence, the Federal Water Pollution Control Act of 1972 adopted many of the concepts previously embodied within California's water quality control policies. These were issued in the early 1960's to the various regional water quality control boards by the California State Board. This was in response to a growing concern during the previous two decades. With the dramatic increase in the population settling around San Diego Bay after World War II, enormous quantities of untreated sewage and industrial waste (15 million gallons per day) were being dumped into the bay. An outfall line from Point Loma was extended to waters of 200 feet. This proved insufficient to rectify the problem; hence, the attempt by the State Board to begin controlling water quality. The Federal Water Pollution Control Act (FWPC Act, 1972) took away the state's authority over navigable waters.

California (continued)

In 1974 the Interim Basin Plan for San Diego Bay was designed to strengthen water quality control in the bay. With this plan, the California State Water Quality Control Board took over the federal portion of the FWPC Act, and became the lead state agency for water quality control, with the EPA as acting authority. In the mid-1970's, the public became concerned with the designation of NDZs. The Coast Guard was given the task under Public Law 92500 to conserve navigable waters. The NDZ statute, however, enabled states to regain authority over these waters if more stringent guidelines could be met. The State Water Quality Control Board had to make two crucial findings: 1) to prove the need for a NDZ, and 2) to ascertain a sufficient number of pump-out facilities. The Regional Water Quality Control Board (there are 9 in California) via the State Water Quality Control Board and the Governor's Office, then submitted a letter to the administrator of EPA, requesting that San Diego Bay and three other small craft harbors (Dana Point Harbor, Oceanside Harbor and Mission Bay) be designated as NDZs. The stumbling block became the U.S. Navy, located in San Diego Bay and representing some 100 ships (about one-quarter of the entire U.S. Navy's fleet). State jurisdiction did not include authority over these federally-used waters. The Regional Water Quality Control Board was granted authority over the NDZ designations but the NDZs were defined above the 30-foot water mark at mean low low water (MLLW). Therefore, it would not be a federal violation to dump in waters greater than 30 feet.

The 1977 amendments to the Clean Water Act not only defined sewage, but added "graywater" (shower and bath water) to the definition of sewage in the Great Lakes. Consequently, in a NDZ only Type III MSDs were permissible on board, or no permanently installed head was allowed. Ironically, however, the MSD program only existed at the federal level; there was no such program at the state level. State authorities could not board vessels to ensure compliance. Only the Coast Guard had the authority. The one exception, however, are the Peace Officers of the State who can enforce the state's NDZ law. These officers have the authority to board vessels for inspection, but they are limited in number.

The California Water Code, administered by the regional water quality control boards, and the California Harbors and Navigation Code set standards for pump-out facilities at marinas. Section 1360, however, prohibits the regional boards from establishing performance levels, such as bacterial counts. The boards may only demand the installation of MSDs, or in the case of marinas, local agencies may require holding devices (Type III MSDs). For example, both the Port of San Diego (via the yacht club) and Channel Islands Harbor require holding devices. Newport Bay has a joint task force working with the regional board to ensure adequate pump-out facilities. In the end, however, education has the greatest effect ensuring participation in an NDZ-type program, as opposed to having the NDZ status officially granted and then attempting

California (continued)

to enforce the regulations. The public seems to cooperate out of awareness of the problem; regulations may, in fact, deter compliance. Finally, the crucial question is whether a state or local agency has the authority to request holding tanks and perform inspections. In California's case, at the state level, only Peace Officers are able to board vessels for inspection. Unfortunately, there is an insufficient number of these officers to provide effective monitoring. In general, progress on rectifying the vessel sewage problem has been on a case-by-case basis, often in response to an accident or disaster.

The most aggressive NDZ program in the country exists in the City of Avalon, Santa Catalina Island, California. Due to excessive coliform counts, the health services in Los Angeles threatened to close Avalon Harbor. 25,000 boats use the harbor every summer and over a million tourists travel to this island, located approximately 25 miles off the California coast. The NDZ program was therefore initiated in August of 1988. A yellow-fluorescent dye tablet, good for 60 gallons, is placed in each toilet facility on board the vessel. A \$ 500 fine, as well as expulsion from the harbor for one year, is levied for a violation. The number of violations has decreased over the years and the 1988 coliform count of 1600 ppm has now been reduced to 8-12 ppm. Needless to say, the program is expensive to administer. An additional two officers were hired to monitor the region and the process is extremely time-consuming. Nevertheless, the NDZ program is popular because it has improved Avalon's waters.

Richardson Bay, CA, is the most recent NDZ addition to the state. It began as a local effort in the early 1980's with a management policy involving the Bay Conservation Development Community (BCDC) and the local government. Efforts focussed on anchorages and boat houses, areas of high recreational use. A 'no vessel discharge' policy was adopted and Richardson Bay then asked the California Regional Water Quality Control Board, San Diego Region, to assist in administering this policy. Coliform counts and public input helped in the development of a staff proposal which was subsequently submitted to the California State Water Quality Control Board for approval before presenting the 'no vessel discharge' policy to the EPA.

Maryland

Contact: Don O'Neil, Pump-out Grant Coordinator.

Maryland has yet to submit their NDZ application to the EPA. However, a preliminary 'trial balloon' methodology has been drafted, utilizing a point system to assess the sufficiency of existing pump-out facilities in the arbitrarily-chosen Rock Hall Harbor (Appendix E), since meeting the pump-out criterium appears to be the EPA's main concern. The draft does not address sensitive wildlife areas and has yet to be reviewed. The state has a program to encourage

Maryland (continued)

the installation of pump-out facilities, offering as much as 100% reimbursement. Consequently, since late 1989, 56 new pump-outs have been installed, and in addition to the pre-existing 32, brings the total to 88. The goal is to build 30 new pump-outs per year.

Michigan and Minnesota

Contacts: Kim Elberum, Minnesota Dept. of Natural Resources, Trails and Waterways; Lyle Belknap, Law Enforcement Division, Michigan Dept. of Natural Resources.

Minnesota has apparently had no discharge status since 1969, although three areas were denied NDZ status. Lake Superior and the southern section of the Mississippi are difficult to manage due to international/commercial traffic and different MSD types. The Lower St. Croix was denied NDZ status due to a lack of pump-outs. The Department of Natural Resources therefore focusses on managing recreational traffic. Coast Guard regulations have been adopted by all the states sharing the Great Lakes and connecting waters. The Great Lakes Commission helps the Coast Guard to enforce the no discharge laws.

Wisconsin

Contact: Mary-Jo Kopecky, Director of Wastewater Program, Water Quality Division.

Wisconsin has administrative codes which determine outstanding/exceptional water resources. Water quality data, documentation of resource uses and public hearings contribute to preserving the relatively pristine, usually forested waterways. These rivers, such as the Wisconsin River and Rock River, tend to be fast-flowing, often possessing rapids and therefore, no motorized craft use these water bodies. Development along such regions is restricted.

Washington

Contact: Doug Strong, Water Quality Division.

The Puget Sound Water Quality Management Plan identifies the possibility of establishing 'no anchorage' areas or NDZs in the state of Washington. The request is made to the EPA but there must be a sufficient number of pump-out facilities. The Health Department can facilitate the designation of no anchorage areas or NDZs as there are many shellfish beds along the Washington coast, usually situated in poorly flushed embayments. Declaring a no anchorage area is a feasible management mechanism to change user patterns; it is easy to monitor in comparison with NDZ areas. Local efforts have proved more effective than federal regulations in initiating

Washington (continued)

NDZ designations. A grant program, as well as the odd fish restoration project, helps to finance pump-out installations. The Water Quality Division is working state-wide with NOAA, in consultation with other agencies, to establish a marine sanctuary. NDZ status is simultaneously granted under the National Marine Sanctuary Act, pending a sufficient number of pump-out facilities to service the area. The Sanctuary Act defines sewage to include "graywater" (shower and bath water). An "adjustment time" may be granted while MSDs are updated to collect graywater.

Last year Congress passed the Clean Vessel Act. The act has allowed for the re-routing of money, collected from extra fuel tax and initially given to the Aquatic Resources Trust Account, to be used not only for fish restoration projects, but also to subsidize pump-out facility installations. The funding criteria is currently being established and may be finalized by June 1993.

Conclusion

The EPA appears to have finally produced a somewhat detailed guideline for those states wishing to meet the criteria for NDZ status. EPA Region 1 (Boston, MA) and Region 10 (Sacramento, CA) seem to be the most up-to-date and organized EPA regions for NDZ designation. However, the process is slow, generally progressing on a case-by-case basis. In general, sewage dumping is prohibited in state water bodies and if a valve exists on an MSD, it is required to be made inoperable so that the only means of disposal is at a pump-out facility. State vessels appear to be exempted from abiding by such NDZ laws.

Appendix A

Sections 312(f)(3) and (f)(4) of the Clean Water Act

Appendix A
Sections 312(f)(3) and (f)(4) of the Clean Water Act

WATER POLLUTION ACT

S-783
71:5175

MARINE SANITATION DEVICES

Sec. 312. (a) For the purpose of this section, the term-

(1) "new vessel" includes every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on the navigable waters, the construction of which is initiated after promulgation of standards and regulation under this section;

(2) "existing vessel" includes every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on the navigable waters, the construction of which is initiated before promulgation of standards and regulations under this section;

(3) "public vessel" means a vessel owned or bareboat-chartered and operated by the United States, by a State or political subdivision thereof, or by a foreign nation, except when such vessel is engaged in commerce;

(4) "United States" includes the States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Canal Zone, and the Trust Territory of the Pacific Islands;

(5) "marine sanitation device" includes any equipment for installation on board a vessel which is designed to receive, retain, treat, or discharge sewage, and any process to treat such sewage;

(6) "sewage" means human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes except that, with respect to commercial vessels on the Great Lakes such term shall include graywater;

(7) "manufacture" means any person engaged in the manufacturing, assembling, or importation of marine sanitation devices or of vessels subject to standards and regulations promulgated under this section;

(8) "person" means an individual, partnership, firm, corporation, or association, but does not include an individual on board a public vessel;

(9) "discharge" includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying or dumping;

(10) "commercial vessels" means those vessels used in the business of transporting property for compensation or hire, or in transporting property in the business of the owner, lessee, or operator of the vessel;

(11) "graywater" means galley, bath, and shower water.

(b) (1) As soon as possible, after the enactment of this section and subject to the provisions of section 101(j) of this Act, the Administrator, after consultation with the Secretary of the department in which the Coast Guard is operating, after giving appropriate consideration

to the economic costs involved, and within the limits of available technology, shall promulgate Federal standards of performance for marine sanitation devices (hereafter in this section referred to as "standards") which shall be designed to prevent the discharge of untreated or inadequately treated sewage into or upon the navigable waters from new vessels and existing vessels, except vessels not equipped with installed toilet facilities. Such standards and standards established under subsection (c) (1) (B) of this section shall be consistent with maritime safety and the marine and navigation laws and regulations and shall be coordinated with the regulations issued under this subsection by the Secretary of the department in which the Coast Guard is operating. The Secretary of the department in which the Coast Guard is operating shall promulgate regulations, which are consistent with standards promulgated under this subsection and subsection (c) of this section with maritime safety and the marine and navigation laws and regulations governing the design, construction, installation, and operation of any marine sanitation device on board such vessels.

(2) Any existing vessel equipped with a marine sanitation device on the date of promulgation of initial standards and regulations under this section, which device is in compliance with such initial standards and regulations, shall be deemed in compliance with this section until such time as the device is replaced or is found not to be in compliance with such initial standards and regulations.

(c) (1) (A) Initial standards and regulations under this section shall become effective for new vessels two years after promulgation; and for existing vessels five years after promulgation. Revisions of standards and regulations shall be effective upon promulgation, unless another effective date is specified, except that no revision shall take effect before the effective date of the standard or regulation being revised.

(B) The Administrator shall, with respect to commercial vessels on the Great Lakes, establish standards which require at a minimum the equivalent of secondary treatment as defined under section 304(d) of this Act. Such standards and regulations shall take effect for existing vessels after such time as the Administrator determines to be reasonable for the upgrading of marine sanitation devices to attain such standard.

(2) The Secretary of the department in which the Coast Guard is operating with regard to his regulatory authority established by this section, after consultation with the Administrator, may distinguish among classes, types, and sizes of vessels as well as between new and existing vessels, and may waive applicability of standards and regulations, as necessary or appropriate for such classes, types, and sizes of vessels (including existing vessels equipped with marine sanitation devices on the date of promulgation of the initial standards required by this section), and, upon application, for individual vessels.

(d) The provisions of this section and the standards and regulations promulgated hereunder apply to vessels owned and operated by the United States unless the Secretary of Defense finds that compliance would not be in the interest of national security. With respect to vessels owned and operated by the Department of Defense, regulations under the last sentence of subsection (b) (1) of this section and certifications under subsection (g) (2) of this section shall be promulgated and issued by the Secretary of Defense.

(e) Before the standards and regulations under this section are promulgated, the Administrator and the Secretary of the department in which the Coast Guard is operating shall

consult with the Secretary of State; the Secretary of Health, Education, and Welfare, the Secretary of Defense; the Secretary of the Treasury; the Secretary of Commerce; other interested Federal agencies; and the States and industries interested; and otherwise comply with the requirements of section 553 of title 5 of the United States Code.

(f) (1) (A) Except as provided in subparagraph (B), after the effective date of the initial standards and regulations promulgated under this section, no State or political subdivision thereof shall adopt or enforce any statute or regulation of such State or political subdivision with respect to the design, manufacture, or installation or use of any marine sanitation device on any vessel subject to the provisions of this section.

[Sec. 312(f)(1)(A) designated and amended by PL 100-41]

(B) A State may adopt and enforce a statute of regulation with respect to the design, manufacture, or installation or use of any marine sanitation device on a houseboat, if such statute or regulation is more stringent than the standards and regulations promulgated under this section. For purposes of this paragraph, the term 'houseboat' means a vessel which, for a period of time determined by the State in which the vessel is located, is used primarily as a residence and is not used primarily as a means of transportation.

[Sec. 312(f)(1)(B) added by PL 100-4]

(2) If after promulgation of the initial standards and regulations and prior to their effective date, a vessel is equipped with a marine sanitation device in compliance with such standards and regulations and the installation and operation of such device is in accordance with such standards and regulations, such standards and regulations shall, for the purposes of paragraph (1) of this subsection, become effective with respect to such vessel on the date of such compliance.

(3) After the effective date of the initial standards and regulations promulgated under this section, if any State determines that the protection and enhancement of the quality of some or all of the waters within such State require greater environmental protection, such State may completely prohibit the discharge from all vessels of any sewage, whether treated or not, into such waters, except that no such prohibition shall apply until the Administrator determines that adequate facilities for the safe and sanitary removal and treatment of sewage from all vessels are reasonably available for such water to which such prohibition would apply. Upon application of the State, the Administrator shall make such determination within 90 days of the date of such application.

(4) (A) If the Administrator determines upon application by a State that the protection and enhancement of the quality of specified waters within such State requires such a prohibition, he shall by regulation completely prohibit the discharge from a vessel of any sewage (whether treated or not) into such waters.

(B) Upon application by a State, the Administrator shall, by regulation, establish a drinking water intake zone in any waters within such State and prohibit the discharge of sewage from vessels within that zone.

(g) (1) No manufacturer of a marine sanitation device shall sell, offer for sale, or

introduce or deliver for introduction in interstate commerce, or import into the United States for sale or resale any marine sanitation device manufactured after the effective date of the standards and regulations promulgated under this section unless such device is in all material respects substantially the same as a test device certified under this subsection.

(2) Upon application of the manufacturer, the Secretary of the department in which the Coast Guard is operating shall so certify a marine sanitation device if he determines, in accordance with the provisions of this paragraph, that it meets the appropriate standards and regulations promulgated under this section. The Secretary of the department in which the Coast Guard is operating shall test or require such testing of the device in accordance with procedures set forth by the Administrator as to standards of performance and for such other purposes as may be appropriate. If the Secretary of the department in which the Coast Guard is operating determines that the device is satisfactory from the standpoint of safety and any other requirements of maritime law or regulation, and after consideration of the design, installation, operation, material, or other appropriate factors, he shall certify the device. Any device manufactured by such manufacturer which is in all material respects substantially the same as the certified test device shall be deemed to be in conformity with the appropriate standards and regulations established under this section.

(3) Every manufacturer shall establish and maintain such records, make such reports, and provide such information as the Administrator or the Secretary of the department in which the Coast Guard is operating may reasonably require to enable him to determine whether such manufacturer has acted or is acting in compliance with this section and regulations issued thereunder and shall, upon request of an officer or employee duly designated by the Administrator or the Secretary of the department in which the Coast Guard is operating, permit such officer or employee at reasonable times to have access to and copy such records. All information reported to or otherwise obtained by the Administrator or the Secretary of the department in which the Coast Guard is operating or their representatives pursuant to this subsection which contains or relates to a trade secret or other matter referred in section 1905 of title 18 of the United States Code shall be considered confidential for the purpose of that section, except that such information may be disclosed to other officers or employees concerned with carrying out this section. This paragraph shall not apply in the case of the construction of a vessel by an individual for his own use.

(h) After the effective date of standards and regulations promulgated under this section, it shall be unlawful-

(1) for the manufacturer of any vessel subject to such standards and regulations to manufacture for sale, to sell or offer for sale, or to distribute for sale or resale any such vessel unless it is equipped with a marine sanitation device which is in all material respects substantially the same as the appropriate test device certified pursuant to this section;

(2) for any person, prior to the sale or delivery of a vessel subject to such standards and regulations to the ultimate purchaser, wrongfully to remove or render inoperative any certified marine sanitation device or element of design of such device installed in such vessel;

(3) for any person to fail or refuse to permit access to or copying of records or to fail to make reports or provide information required under this section; and

(4) for a vessel subject to such standards and regulations to operate on the navigable waters of the United States, if such vessel is not equipped with an operable marine sanitation

device certified pursuant to this section.

(i) The district courts of the United States shall have jurisdictions to restrain violations of subsection (g) (1) of this section and subsections (h) (1) through (3) of this section. Actions to restrain such violations shall be brought by, and in, the name of the United States. In case of contumacy or refusal to obey a subpoena served upon any person under this subsection, the district court of the United States for any district in which such person is found or resides or transacts business, upon application by the United States and after notice to such person, shall have jurisdiction to issue an order requiring such person to appear and give testimony or to appear and produce documents, and any failure to obey such order of the court may be punished by such court as a contempt thereof.

(j) Any person who violates subsection (g) (1) of this section or clause (1) or (2) of subsection (h) of this section shall be liable to a civil penalty of not more than \$5,000 for each violation. Any person who violates clause (4) of subsection (h) of this section or any regulation issued pursuant to this section shall be liable to a civil penalty of not more than \$2,000 for each violation. Each violation shall be a separate offense. The Secretary of the department in which the Coast Guard is operating may assess and compromise any such penalty. No penalty shall be assessed until the person charged shall have been given notice and an opportunity for a hearing on such charge. In determining the amount of the penalty, or the amount agreed upon in compromise, the gravity of the violation, and the demonstrated good faith of the person charged in attempting to achieve rapid compliance, after notification of a violation, shall be considered by said Secretary.

(k) The provisions of this section shall be enforced by the Secretary of the department in which the Coast Guard is operating and he may utilize by agreement, with or without reimbursement, law enforcement officers or other personnel and facilities of the Administrator, other Federal agencies, or the States to carry out the provisions of this section. The provisions of this section may also be enforced by a State.

[Sec. 312(k) amended by PL 100-41]

(l) Anyone authorized by the Secretary of the department in which the Coast Guard is operating to enforce the provisions of this section may, except as to public vessels, (1) bond and inspect any vessel upon the navigable waters of the United States and (2) execute any warrant or other process issued by an officer or court of competent jurisdiction.

(m) In the case of Guam and the Trust Territory of the Pacific Islands, actions arising under this section may be brought in the district court of Guam, and in the case of the Virgin Islands such actions may be brought in the district court of the Virgin Islands. In the case of American Samoa and the Trust Territory of the Pacific Islands, such actions may be brought in the District Court of the United States for the District of Hawaii and such court shall have jurisdiction of such actions. In the case of the Canal Zone, such action may be brought in the District Court for the District of the Canal Zone.

Appendix B

40 CFR PART 140 -- MARINE SANITATION DEVICE STANDARD

Appendix B

40 CFR PART 140 -- MARINE SANITATION DEVICE STANDARD

Sec.

140.1 Definitions

140.2 Scope of standard

140.3 Standard

140.4 Complete prohibition

140.5 Analytical procedures

AUTHORITY: Sec. 312, as added Oct. 18, 1972, Pub. L. 92-500, sec. 2, 86 Stat. 871. Interpret or apply sec. 312(b)(1), 33 U.S.C. 1322(b)(1).

SOURCE: 41 FR 4453, Jan. 29, 1976, unless otherwise noted.

S 140.1 Definitions.

For the purpose of these standards the following definitions shall apply:

(a) *Sewage* means human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes;

(b) *Discharge* includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying, or dumping.

(c) *Marine sanitation device* includes any equipment for installation onboard a vessel and which is designed to receive, retain, treat, or discharge sewage and any process to treat such sewage;

(d) *Vessel* includes every description of watercraft or other artificial contrivance used, or capable of being used as a means of transportation on waters of the United States;

(e) *New vessel* refers to any vessel on which construction was initiated on or after January 30, 1975;

(f) *Existing vessel* refers to any vessel on which construction was initiated before January 30, 1975;

(g) *Fecal coliform bacteria* are those organisms associated with the intestines of warm-blooded animals that are commonly used to indicate the presence of fecal material and the potential presence of organisms capable of causing human disease.

S 140.2 Scope of standard.

The standard adopted herein applies only to vessels on which a marine sanitation device has been installed. The standard does not require the installation of a marine sanitation device on any vessel that is not so equipped. The standard applies to vessels owned and operated by the United States unless the Secretary of Defense finds that compliance would not be in the interest of national security.

S 140.3 Standard.

(a) (1) In freshwater lakes, freshwater reservoirs or other freshwater impoundments whose inlets or outlets are such as to prevent the ingress or egress by vessel traffic subject to this regulation, or in rivers not capable of navigation by interstate vessel traffic subject to this regulation, marine sanitation devices certified by the U.S. Coast Guard (see 33 CFR part 159, published in 40 FR 4622, January 30, 1975), installed on all vessels shall be designed and operated to prevent the overboard discharge of sewage, treated or untreated, or of any waste derived from sewage. This shall not be construed to prohibit the carriage of Coast Guard-certified flow-through treatment devices which have been secured so as to prevent such discharges.

(2) In all other waters, Coast Guard-certified marine sanitation devices installed on all vessels shall be designed and operated to either retain, dispose of, or discharge sewage. If the device has a discharge, subject to paragraph (d) of this section, the effluent shall not have a fecal coliform bacterial count of greater than 1,000 per 100 milliliters nor visible floating solids. Waters where a Coast Guard-certified marine sanitation device permitting discharge is allowed include coastal waters and estuaries, the Great Lakes and inter-connected waterways, freshwater lakes and impoundments accessible through locks, and other flowing waters that are navigable interstate by vessels subject to this regulation.

(b) This standard shall become effective on January 30, 1977 for new vessels and on January 30, 1980 for existing vessels (or, in the case of vessels owned and operated by the Department of Defense, two years and five years, for new and existing vessels, respectively, after promulgation of implementing regulations by the Secretary of Defense under section 312(d) of the Act).

(c) Any vessel which is equipped as of the date of promulgation of this regulation with a Coast Guard-certified flow-through marine sanitation device meeting the requirements of paragraph (a)(2) of this section, shall not be required to comply with the provisions designed to prevent the overboard discharge of sewage, treated or untreated, in paragraph (a)(1) of this section, for the operable life of that device.

(d) After January 30, 1980, subject to paragraphs (e) and (f) of this section, marine sanitation devices on all vessels on waters that are not subject to a prohibition of the overboard discharge of sewage, treated or untreated, as specified in paragraph (a)(1) of this section, shall be designed and operated to either retain, dispose of, or discharge sewage, and shall be certified by the U.S. Coast Guard. If the device has a discharge, the effluent shall not have a fecal coliform bacterial count of greater than 200 per 100 milliliters, nor suspended solids greater than 150 mg/l.

(e) Any existing vessel on waters not subject to a prohibition of the overboard discharge of sewage in paragraph (a)(1) of this section, and which is equipped with a certified device on or before January 30, 1978, shall not be required to comply with paragraph (d) of this section, for the operable life of that device.

(f) Any new vessel on waters not subject to the prohibition of the overboard discharge of sewage in paragraph (a)(1) of this section, and on which construction is initiated before January 31, 1980, which is equipped with a marine sanitation device before January 31, 1980, certified under paragraph (a)(2) of this section, shall not be required to comply with paragraph (d) of this section, for the operable life of that device.

(g) The degrees of treatment described in paragraphs (a) and (d) of this section are

"appropriate standards" for purposes of Coast Guard and Department of Defense certification pursuant to section 312(g)(2) of the Act.

(h) This section is not to be construed to accelerate the effective date of the standards and regulations promulgated under section 312 as such date affects the sales regulations for marine sanitation devices specified in section 312(g)(1): January 30, 1977, and January 30, 1980, for new and existing vessels, respectively.

S 140.4 Complete prohibition.

(a) A State may completely prohibit the discharge from all vessels of any sewage, whether treated or not, into some or all of the waters within such State by making a written application to the Administrator, Environmental Protection Agency, and by receiving the Administrator's affirmative determination pursuant to section 312(f)(3) of the Act. Upon receipt of an application under section 312(f)(3) of the Act, the Administrator will determine within 90 days whether adequate facilities for the safe and sanitary removal and treatment of sewage from all vessels using such waters are reasonably available. Applications made by States pursuant to section 312(f)(3) of the Act shall include:

- (1) A certification that the protection and enhancement of the waters described in the petition require greater environmental protection than the applicable Federal standard;
- (2) A map showing the location of commercial and recreational pump-out facilities;
- (3) A description of the location of pump-out facilities within waters designated for no discharge;
- (4) The general schedule of operating hours of the pump-out facilities;
- (5) The drought requirements on vessels that may be excluded because of insufficient water depth adjacent to the facility;
- (6) Information indicating that treatment of wastes from such pump-out facilities is in conformance with Federal law; and
- (7) Information on vessel population and vessel usage of the subject waters.

(b) A State may make a written application to the Administrator, Environmental Protection Agency, under section 312(f)(4) of the Act, for the issuance of a regulation completely prohibiting discharge from a vessel of any sewage, whether treated or not, into particular waters of the United States or specified portions thereof, which waters are located within the boundaries of such State. Such application shall specify with particularity the waters, or portions thereof, for which a complete prohibition is desired. The application shall include identification of water recreational areas, drinking water intakes, aquatic sanctuaries, identifiable fish-spawning and nursery areas, and areas of intensive boating activities. If, on the basis of the State's application and any other information available to him, the Administrator is unable to make a finding that the waters listed in the application require a complete prohibition of any discharge in the waters or portions thereof covered by the application, he shall state the reasons why he cannot make such a finding, and shall deny the application. If the Administrator makes a finding that the waters listed in the application require a complete prohibition of any discharge in all or any part of the waters or portions thereof covered by the State's application, he shall publish notice of such findings together with a notice of proposed rule making, and then shall proceed in accordance with 5 U.S.C. 553. If the Administrator's finding is that applicable water quality

standards require a complete prohibition covering a more restricted or more expanded area than that applied for by the State, he shall state the reasons why his finding differs in scope from that requested in the State's application.

(1) For the following waters the discharge from a vessel of any sewage (whether treated or not) is completely prohibited:

Boundary Waters Canoe Area, formerly designated as the Superior, Little Indian Sioux, and Caribou Roadless Areas, in the Superior National Forest, Minnesota, as described in 16 U.S.C. 577-577d1.

[41 FR 4453, Jan. 29, 1976, as amended at 42 FR 43837, Aug. 31, 1977]

S 140.5 Analytical procedures.

In determining the composition and quality of effluent discharge from marine sanitation devices, the procedures contained in 40 CFR part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants," or subsequent revisions or amendments thereto, shall be employed.

Appendix C

**GUIDANCE FOR STATES AND MUNICIPALITIES SEEKING NO-DISCHARGE AREA
DESIGNATION FOR NEW ENGLAND COASTAL WATERS**

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

**REGION I
BOSTON, MASSACHUSETTS
JUNE 24, 1991
(Revised April 14, 1992)**

Appendix C

GUIDANCE FOR STATES AND MUNICIPALITIES SEEKING NO-DISCHARGE AREA DESIGNATION FOR NEW ENGLAND COASTAL WATERS

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Background

Pollution of estuarine and other near coastal waters has been identified by Federal and state environmental agencies as a priority problem in need of immediate attention. While pollution from point sources such as sewage treatment plants and industrial facilities appears to be diminishing as a result of pollution control programs, there is a growing recognition that non-point sources play a significant role in degrading coastal water quality (U.S. EPA, 1990). These non-point sources include urban stormwater runoff, agricultural runoff, and leachate from malfunctioning septic systems and land disposal.

Sewage discharges from recreational and commercial vessels with installed toilets (marine sanitation devices, or MSDs) also contribute to the degradation of coastal water quality. By virtue of provisions in the Clean Water Act, vessel sewage discharges are statutorily defined as point sources. However, the diffuse nature of these discharges makes classification of this source of pollution as either point or nonpoint problematic. In addition, because there are literally thousands of boats traversing freely along thousands of miles of coastline, regulating these discharges is extremely difficult.

Although Federal law requires marine sanitation devices (MSDs) to meet certain discharge effluent standards, boat owners still discharge treated wastes legally and untreated wastes illegally into coastal waters. The discharge of these sewage wastes from boats may degrade water quality by (1) introducing microbial pathogens into the environment and (2) locally increasing biological oxygen demand (U.S. EPA, 1985). While vessel sewage discharges represent only one of several sources of point and non-point pollution, the number of boats using New England coastal waters has increased substantially during the past decade.¹ The contribution of boat sewage to total

¹ According to data from U.S. Coast Guard Statistics annual reports, the total number of registered boats in the five New England coastal states has grown from 408,453 in 1980 to 594,547 in 1989 - a 46 percent increase. The Coast Guard data also show that there were 351,181 registered boats in 1975, and 214,020 in 1970. This represents a 178 percent increase in boat registrations in New England coastal states between 1970 and 1989. These

pathogen loadings and local biological oxygen demand has grown proportionately.

A potentially serious problem resulting from vessel sewage discharges is the introduction of disease-carrying microorganisms from fecal matter into the coastal environment. Humans are put at risk by eating contaminated shellfish and swimming in contaminated waters. The major disease-carrying agents are bacteria and viruses, and the most common serious ailment is acute gastroenteritis. Other waterborne diseases include hepatitis, typhoid, and cholera (Milliken and Lee, 1990). The indicators used to detect sewage pollution are not the pathogens themselves, but, rather, coliform bacteria. These bacteria are always present in the human intestinal tract and are thus considered reliable indicators of the presence of human waste (U.S. EPA, 1985). Studies conducted in Puget Sound, Long Island Sound, Narragansett Bay, and Chesapeake Bay have demonstrated that boats can be a significant source of fecal coliform bacteria in coastal waters, particularly in areas with high boat densities and low hydrologic flushing (Milliken and Lee, 1990; JRB Associates, 1980). If coliform levels exceed allowable thresholds, shellfish beds and swimming beaches may be closed to minimize the threat of public health problems. In addition, shellfish beds and swimming beaches in the immediate vicinity of marinas usually are permanently closed because of the potential for contamination by vessel sewage discharges.²

These organic-rich wastes also have the potential to depress oxygen levels as they decay in the marine environment. Biological oxygen demand (BOD) is a measure of the dissolved oxygen required to decompose the organic matter in the water by aerobic processes. When the loading of organic matter increases, the BOD increases, and there is a consequent reduction in the dissolved oxygen available for respiration by aquatic organisms (U.S. EPA, 1985). Although the volume of wastewater discharged from boats is relatively small, the organics in the wastewater are concentrated, and therefore the BOD (1700-3500 mg/l) is much higher than that of raw municipal sewage (110-400 mg/l) or treated municipal sewage (5-100 mg/l) (JRB Associates, 1981). Sewage discharged from MSDs will thus increase the BOD in the vicinity of boats. When this occurs in poorly flushed waterbodies, the dissolved oxygen concentrations of the water may decrease (Milliken and Lee, 1990).

Additional problems associated with boat sewage arise from the use of chemical additives such as chlorine, formaldehyde and zinc compounds to disinfect on-board sewage. Of the two major disinfectant chemicals used in Type I MSDs - chlorine and formaldehyde - only chlorine has been shown to be toxic in the aquatic environment. While formaldehyde is considered a toxic

figures do not separate boats registered for use in coastal waters from those registered for use in inland waters (Ross, 1991).

² The U.S. Health and Human Services Food and Drug Administration (FDA) through its National Shellfish Sanitation Program (NSSP) has established a standard of 14 fecal coliforms/100 ml of water, above which shellfish harvesting is prohibited (U.S. Department of Health and Human Services, 1990). Each state establishes its own standard for primary contact recreation; most have adopted a standard of 200 fecal coliforms/100 ml.

substance, it is completely miscible in water and is readily degradable. Zinc salts are frequently used as bacteriostatic agents in Type III MSDs. Zinc has been reported to be lethal to fish and many aquatic plants, and is known to bioaccumulate.

While a direct link between MSD disinfectants and effects on the environment has not been documented, the presence of these chemicals in sufficient concentrations may be of concern (JRB Associates, 1981). In addition, since the amounts of chemicals added are controlled by the individual, excess use may occur.

A related problem is the reluctance of some sewage treatment plant operators to accept boat sewage because of its concentrated chemical content, which has been thought to reduce the effectiveness of many biological treatment processes. Research into the effects of chemical disinfectants on sewage treatment processes indicates that this problem has been greatly overstated, and that, in general, most local wastewater treatment plants can handle boat holding tank wastes without difficulty (Novak et al, 1990).

Section 312 of the Clean Water Act

Federal statutory authority to regulate vessel sewage discharges and MSDs was established with passage of the Federal Water Pollution Control Act of 1972. This law was amended in 1977 with passage of the Clean Water Act, and again in 1987 by the Water Quality Act. The statute is now commonly referred to as the Clean Water Act.

Vessel sewage discharges are regulated under Section 312 of the Clean Water Act, entitled "Marine Sanitation Devices." The primary goal of Section 312 is to eliminate the discharge of untreated or inadequately treated sewage from vessels into the waters of the United States. Section 312 sets forth requirements for MSDs on boats and enables states to apply to EPA for the authority to prohibit discharges of all boat wastes, whether treated or untreated. Its premise is that treatment, and in specific locations, prohibition of all vessel sewage discharges will improve water quality and afford additional protection to marine life. In striving to achieve its goal, the law also provides additional protection to human health. The regulation of MSDs is of particular importance in coastal embayments where marinas and other boating facilities are located because of the high concentration of boats, reduced tidal flushing capacity, and general proximity to sensitive resources.

Marine sanitation devices or MSDs are holding tank or treatment and discharge systems (T/D) that are classified by the Coast Guard as either Type I, Type II or Type III. The basis for these classifications is Section 312(b)(1) of the Act, which authorized EPA, with assistance from the Coast Guard, to:

"...promulgate Federal standards of performance for marine sanitation devices which shall be designed to prevent the discharge of untreated or inadequately treated sewage into or upon the navigable waters from new vessels and existing vessels, except vessels not equipped with installed toilet facilities."

Section 312(b)(1) also directed the Coast Guard to promulgate regulations "governing the design, construction, installation, and operation of any marine sanitation device" on board vessels with installed toilets. These regulations are published in 33 CFR Part 159, also entitled "Marine Sanitation Devices." Type I MSDs (acceptable only for boats 65 feet or less in length) will produce an effluent which will not exceed a fecal coliform bacteria count of 1000 parts per 100 milliliters and have no visible floating solids. A Type II MSD (required on boats over 65 feet) will produce an effluent which does not exceed a fecal coliform bacteria count of 200 parts per 100 milliliters, and have suspended solids not greater than 150 milligrams per liter. Type III MSDs are no-discharge systems, and are designed to prevent the overboard discharge of any treated or untreated sewage. Holding tanks are one type of Type III MSD. Type III MSDs are the only type acceptable for use in areas designated by EPA as no-discharge areas.

EPA may grant no-discharge status to those areas that are particularly sensitive to contamination and will benefit from a complete prohibition of all vessel sewage discharges. Sections 312(f)(3) and (f)(4) describe the statutory requirements for a no-discharge area designation.

"Standard" No-Discharge Application Designations

Statutory Requirements - Section 312(f)(3)

Section 312(f)(3) enables states to apply to EPA for designation of certain waterbodies as no-discharge areas. If an application from a state is approved by EPA, the discharge of all sewage, whether treated or not, is prohibited within the area designated. Approval is contingent, however, upon the certification by the state that "adequate and reasonably available" pump-out facilities exist for boaters to use. An application for designation, documenting the need for establishing a no-discharge area and presence of "adequate and reasonably available" pump-out facilities, must be submitted to EPA for review and approval. The U.S. Coast Guard is the agency charged with enforcing MSD regulations and standards; however, when a state's application for no-discharge status is approved by EPA, enforcement of the no-discharge standard becomes the primary responsibility of the state, and if delegated by the state, the locality in which the designation is in force. Section 312(f)(3) states that:

"...if any State determines that the protection and enhancement of the quality of some or all of the waters within such State require greater environmental protection, such State may completely prohibit the discharge from all vessels of any sewage, whether treated or not, into such waters, except that no such prohibition shall apply until the Administrator determines that adequate facilities for the safe and sanitary removal and treatment of sewage from all vessels are reasonably available for such water to which such prohibition would apply." (emphasis added)

The Act originally stipulated that the EPA Administrator make the final determination on all no-discharge applications. However, this authority has since been delegated to EPA Regional Administrators. Applications for no-discharge area status for any New England coastal waters from Maine to Connecticut shall be submitted to EPA Region I headquarters in Boston. While

the application itself may be prepared by state or local officials, the application submitted to EPA must be signed by either the state's governor or chief environmental official.

There is only one no-discharge area on the entire East Coast. The coastal waters of Wareham, Massachusetts, in the northwest corner of Buzzards Bay, received no-discharge status early in 1992. However, several New England states have expressed an interest in pursuing no-discharge status for selected coastal areas and are working with EPA and municipalities to achieve this designation. The majority of the remaining coastal no-discharge areas designated under Section 312(f)(3) are located in California. These include: Upper and Lower Newport Bay; Sunset Bay; Huntington Harbor; portions of San Diego Bay; Mission Bay; Oceanside Harbor; Dana Point Harbor; Avalon Harbor on Santa Catalina Island; Channel Islands Harbor; and Richardson Bay. The only other coastal no-discharge area is in Destin Harbor on Florida's Gulf Coast.

Regulatory Requirements - 40 CFR 140.4(a)

Standards promulgated pursuant to Section 312(f)(3) are found in 40 CFR Part 140.4. Part 140.4(a) describes the minimum requirements a state must meet in submitting an application to prohibit vessel sewage discharges. Under Part 140.4(a), applications made by states pursuant to Section 312(f)(3) shall include:

- 1) A certification that the protection and enhancement of the waters described in the application require greater environmental protection than the applicable Federal standard;
- 2) A map showing the location of commercial and recreational pump-out facilities;
- 3) A description of the location of pump-out facilities within waters designated for no discharge;
- 4) The general schedule of operating hours of the pump-out facilities;
- 5) The drought requirements on vessels that may be excluded because of insufficient water depth adjacent to the facility;
- 6) Information indicating that treatment of wastes from such pump-out facilities is in conformance with Federal law; and
- 7) Information on vessel population and vessel usage of the subject waters.

Supplemental Requirements - Advisory Guidelines

To clarify these statutory and regulatory requirements, and to ensure that the Agency has enough information to make a sound decision, EPA Region I has developed "advisory

guidelines" that should be followed when preparing and submitting a no-discharge application. These guidelines address both pre- and post-application procedures. Pre-application procedures will help state and local officials determine whether a proposed no-discharge area meets the necessary criteria, and post-application procedures will enable EPA to make a well-informed decision. *Meeting the requirements of these "advisory guidelines" is not mandatory*; an application for no-discharge status will not be denied if the requirements are not met.

The most important requirement a state must meet before receiving an approval for no-discharge status for coastal waters is demonstrating that "adequate and reasonably available" pump-out facilities are in place and are operational. Before developing an application, applicants (whether they are state or local officials) should ascertain whether this basic requirement can be met. There is no set ratio or formula to determine the exact number of pump-out facilities necessary to serve a given population of boats. However, EPA Region I has determined that, in general, a range ratio of one pump-out facility per 450 boats with MSDs should be sufficient to meet the demand for pump-out services in most harbor areas.

EPA Region I recommends that a minimum of *one pump-out station per 300 boats with MSDs be provided in "transient" harbors* (where a larger percentage of boats are 25 feet in length and over, and are more likely to have holding tanks), and that a minimum of *one pump-out station per 600 boats with MSDs be provided in "parking lot" harbors* (where a larger percentage of boats are less than 25 feet in length and are less likely to have holding tanks). This ratio of pump-out facilities to boats is based on our best professional judgment and on the experiences of regulators in other parts of the country where no-discharge area standards are in effect.³ EPA Region I intends to remain flexible on this issue, and *all no-discharge area applications will be reviewed on a case-by-case basis*.

EPA Region I also strongly recommends that applicants demonstrate that adequate sewage disposal facilities exist for boats that do not have Type III MSDs (holding tanks). These include shoreside restroom and "dump-out" (for disposal of portable toilet waste) facilities that are well maintained and easily accessible from mooring fields and docks/slips within and

³ Unfortunately, no data exist regarding how many vessels have installed toilets or have Type III MSDs as opposed to Type I or II MSDs. A 1981 EPA study estimated that "the vast majority of recreational vessels (did) not have installed toilets and therefore (had) no M-SD of any type," and that "about 10 percent of all recreational vessels can be expected to have installed toilets but that only a portion of these have Type III MSDs." EPA estimated that 20 percent of boats between 16 and 26 feet, 50 percent of boats between 26 and 40 feet, and all of the vessels over 40 feet had installed toilets with some type of MSD.

According to a 1982 study by Rogers and Abbas, it is unlikely that boats under 25 feet have installed toilets because of space and power limitations, and those that are equipped with toilets frequently use Type I MSDs or portable toilets. Data collected in New Jersey support these findings. When harbor masters and marina operators in New Jersey were asked to estimate average size of vessels using pump-out facilities, 57 percent said it was vessels over 30 feet and 43 percent said it was vessels over 25 feet. None reported that vessels under 25 feet were using their pump-out facility (Tiedemann, 1989).

adjacent to the proposed no-discharge area. The provision of these facilities is especially important in "transient" harbors and other boating areas that service a large number of boats with Type I and II MSDs and portable toilets.

While the regulatory requirements described in 40 CFR Part 140.4(a) provide a good starting point in developing a no-discharge application, EPA Region I feels that some of the requirements need clarification.

- * The certification referred to in Part 140.4(a)(1) should include a description of specific resources, such as swimming areas, shellfish beds, fish spawning or nursery areas, and endangered or threatened species habitat, that would benefit from additional protection. Applicants are encouraged to provide (if available) whatever fecal coliform data exists for waters within the proposed no-discharge area (for a minimum of one year preceding the date of application), and other relevant water quality data (e.g., BOD data). The inclusion of this data will enable subsequent improvements in water quality to be measured.
- * The map referred to in Part 140.4(a)(2) should show the location of pump-out facilities within and adjacent to the proposed no-discharge area, as well as the specific resource areas that need additional protection. EPA Region I also encourages applicants to show on the map the location of restroom and "dump-out" facilities located on shore adjacent to the proposed no-discharge area.
- * The description referred to in Part 140.4(a)(3) should be in the form of a written narrative that supplements the map described above. In addition to describing the number and location of the pump-out facilities, applicants should identify the owners and/or operators of each facility (whether public or private), the operating capacity of each facility (e.g., maximum number of pump-outs per hour/day based on pumping rate and sewer system/holding tank capacity), and accessibility of each facility (whether pump-out services are provided only to marina customers or open to all boaters). Applicants should also provide a similar description of restroom and "dump-out" facilities located on shore adjacent to the proposed no-discharge area.
- * In addition to the requirements in Part 140.4(a)(4), applicants should provide maintenance plans for the pump-out facilities and a description of the fees (if any) charged for their use.
- * Part 140.4(a)(5) basically requests that applicants describe the mean low water depth of waters adjacent to pump-out facilities and the percentage or actual number of boats that would be prevented from using facilities due to their drought requirements. In general, pump-out facilities should be located where adjacent water depths will not prevent any boats from using them.
- * The information required in Part 140.4(a)(6) should consist of a written description of

the method(s) that will be used to dispose of sewage collected from vessels, including discharge to a municipal sewage system or regularly scheduled collection by a licensed septage hauler. If holding tank waste is to be collected by a septage hauler, applicants are advised to ensure that the waste is disposed of in an acceptable manner.

- * The information required under Part 140.4(a)(7) should consist of the total number of recreational and commercial vessels that use the waters within the proposed no-discharge area on a regular basis, both year-round and seasonally, and on a transient basis (the maximum number of boats experienced during a summer holiday weekend). Applicants should also provide the actual or estimated number or percentage of boats with Type III MSDs. Remember, EPA Region I's suggested range ratio of pump-out facilities to boats is based on boats with holding tanks.

EPA Region I also feels that some additional information is desirable and would facilitate the review and approval process. We encourage all applicants to provide additional information, including:

- * A *brief* description of existing point source discharges (such as sewage treatment plants, industrial direct dischargers, CSOs, and separate stormwater pipes) that either impact or have the potential to impact water quality within the proposed no-discharge area. The fact that other potential pollution sources exist does not justify exclusion from consideration for no-discharge status.
- * A summary of existing or proposed local ordinances enacted to enhance regulation of vessel sewage discharges.
- * A description of how the prohibition on vessel discharges will be enforced once Federal no-discharge status has been granted.
- * A description of a public information program that will be used to educate boaters about the environmental impacts of boat sewage discharges, availability of pump-out and dump-out facilities, and which areas are designated as no-discharge areas.

"Special" No-Discharge Application Designations

Statutory Requirements - Section 312(t)(4)(A)

Another provision of Section 312 that deals with prohibition of vessel sewage discharges is Section 312(f)(4)(A). This subsection states that:

"If the Administrator determines upon application by a State that the protection and enhancement of the quality of *specified* waters within such State requires such a prohibition, he shall by regulation completely prohibit the discharge from a vessel of any sewage (whether treated or not) into such waters." (emphasis added)

The legislative intent of Section 312(f)(4)(A) is that it is to be used in "*extremely limited circumstances* such as would be found in national parks, national wilderness areas, and national recreation areas." (emphasis added) It is not intended to provide states with a way to circumvent the requirements of Section 312(f)(3) for adequate pump-out facilities in areas where such facilities could be made available. The Boundary Waters Canoe Area in Minnesota is the only waterbody in the United States that has been granted no-discharge status under Section 312(f)(4)(A). EPA will uphold the original intent of this provision by considering only those Section (f)(4)(A) applications that meet these strict requirements.

An important difference between Sections 312(f)(3) and (f)(4)(A) is that, under the former, it is the state that makes the determination that the waters within the proposed no-discharge area require greater protection. The state only has to demonstrate that "adequate and reasonably available" pump-out facilities exist. Under Section 312(f)(4)(A), the primary criterion for no-discharge designation is the need for additional protection. EPA evaluates the application based on this criterion, not on whether pump-out facilities are present.

Regulatory Requirements - 40 CFR 140(b)

Standards pursuant to Section 312(f)(4)(A) are found in 40 CFR Part 140.4(b). Under Part 140.4(b):

"A State may make a written application to (EPA), under Section 312(f)(4) of the Act, for the issuance of a regulation completely prohibiting discharge from a vessel of any sewage, whether treated or not, into particular waters of the United States or specified portions thereof, which waters are located within the boundaries of such State. Such application shall specify with particularity the waters, or portions thereof, for which a complete prohibition is desired. The application shall include identification of water recreational areas, drinking water intakes, aquatic sanctuaries, identifiable fish-spawning and nursery areas, and areas of intensive boating activities."

Supplemental Requirements - Advisory Guidelines

As is the case with 40 CFR Part 140.4(a), some of the requirements described in Part 140.4(b) need further clarification. Again, *meeting the requirements of these "advisory guidelines" is not mandatory*; an application for no-discharge status under Section 312(f)(4)(A) will not be denied if the requirements are not met.

The "description of the waters, or portions thereof" should consist of both a map delineating the area to be designated as no-discharge, and a written narrative. The map should also show the resource areas that are required to be identified and those described below.

- * In addition to identifying the resources required under Part 140.4(b), applicants should also describe other resources, such as shellfish beds and areas used by endangered or

threatened species, that will benefit from a complete prohibition of vessel sewage discharges. Applicants are encouraged to provide whatever fecal coliform data exists for waters within the proposed no-discharge area (for a minimum of one year preceding the date of application), and if available, other relevant water quality data (e.g., BOD data). The inclusion of this data will enable subsequent improvements in water quality to be measured.

- * In addition to identifying "areas of intensive boating activities," applicants should provide information on the total number of recreational and commercial vessels that use the waters within the proposed no-discharge area on a regular basis, both year-round and seasonally, and on a transient basis. Applicants should also provide the actual or estimated number or percentage of boats with Type III MSDs.

Although not specified in Part 140.4(b), additional information would also be helpful in determining the applicability of a Section 312(f)(4)(A) designation for specified coastal waters. EPA encourages applicants to provide additional information, including:

- * A map and written description of pump-out facilities within and adjacent to the proposed no-discharge area. The location of facilities could be shown on the same map that is used to delineate the proposed no-discharge area and resource areas.
- * A *brief* description of existing point source discharges (such as sewage treatment plants, industrial direct dischargers, CSOs, and separate stormwater pipes) that either impact or have the potential to impact water quality within the proposed no-discharge area. The fact that other potential pollution sources exist does not justify exclusion from consideration for no-discharge status.
- * A summary of existing or proposed local ordinances enacted to enhance regulation of vessel sewage discharges.
- * A description of how the prohibition on vessel discharges will be enforced once Federal no-discharge status has been granted.
- * A description of the public information program used to educate beaters about the environmental impacts of boat sewage discharges, availability of pump-out and dump-out facilities, and which areas are designated as no-discharge areas.

General Guidance

A good rule of thumb to follow in preparing applications under either subsection is to provide EPA with as much information as possible. We also encourage applicants to submit a draft application to us before the final application is submitted so we can verify that all the necessary information is included. This measure is intended to streamline the process so that when the final application is submitted by the state governor or chief environmental official it

is less likely to be returned by EPA for corrections.

Enforcement of No-Discharge Areas

Enforcement Authority - Section 312(k)

EPA feels that two of the most important factors in successfully implementing a no-discharge program are providing "adequate and reasonably available" pump-out facilities and conducting a comprehensive boater education program. The third important factor is an effective enforcement program. Enforcement of the standards promulgated pursuant to Section 312 is covered under Section 312(k) of the Act. Section 312(k), as amended, states that:

"The provisions of this section shall be enforced by the Secretary of the department in which the Coast Guard is operating and he may utilize by agreement, with or without reimbursement, law enforcement officers or other personnel and facilities of the (EPA) Administrator, other Federal agencies, *or the States* to carry out the provisions of this section. The provisions of this section may also be enforced *by a State.*" (emphasis added)

Section 312(k) basically provides three methods of enforcement: (1) the Secretary of the Department in which the Coast Guard is operating shall enforce; (2) Federal and state officials may be enlisted to enforce by agreement between the Coast Guard and state or agency; and (3) the states may enforce. Due to resource constraints, however, the Coast Guard has been unable to effectively enforce marine sanitation standards for recreational and small commercial vessels. To compensate for the lack of enforcement, the Coast Guard has entered into agreements with states to share enforcement responsibilities.

In New England, the Coast Guard has a "statement of understanding" with each of the five coastal states authorizing them to enforce Federal boating safety standards and forward reports of violations to the Coast Guard for disposition. Under the terms of the agreement, "The State has primary law enforcement responsibility concerning recreational vessels on the waters subject to the jurisdiction of the State." Further, "Violations of Federal safety standards for boats and *associated equipment* detected by State marine law enforcement officers will be reported to the Coast Guard for disposition." (emphasis added) While the agreement does not state so explicitly, the Coast Guard maintains that their intent is that the state, in addition to assuming responsibility for enforcement of boating safety standards, may also assume responsibility for enforcement of MSD and vessel sewage discharge regulations.

EPA Region I strongly encourages states to opt to undertake enforcement of MSD and vessel sewage discharge regulations. Under present law, all revenues gained through enforcement of Federal MSD standards and regulations must revert to the U.S. Treasury. Proposed amendments to the Clean Water Act would, however, enable states and municipalities to retain fines collected through enforcement of Federal vessel sewage discharge regulations.

Under the third method, however, state governments may pass laws that will enable state enforcement officials to assess penalties and collect fines for *violations of Federal standards*. Since the 1977 amendment had already provided for state enforcement by agreement with the Coast Guard, the addition of state authority to enforce in the 1987 amendment means that, in order to avoid impermissible redundancy, the amendment grants to states a different power from that granted under the aforementioned "statements of understanding." The language of the last sentence of subsection (k) grants states enforcement authority without qualification.

States may also delegate enforcement authority to local enforcement officials, such as harbor masters, police and health officers. Although political subdivisions of states may not assess their own penalties, states may share the penalties assessed for violation of state laws enforcing Federal marine sanitation standards with those subdivisions and law enforcement agencies to whom they have delegated their enforcement authority. This will enable states and local subdivisions to receive some monetary compensation for enforcement of Federal standards.

Federal Preemption - Section 312(f)(1)

An important issue regarding the enforcement of vessel sewage discharge statute and regulations is described in Section 312(f)(1)(A), which preempts any state or local regulation of MSDs. Section 312(f)(1)(A) states in relevant part:

"After the effective date of the initial standards and regulations promulgated under this section, no State or political subdivision thereof shall adopt or enforce any statute or regulation of such State or political subdivision with respect to the design, manufacture, or installation *or use of any marine sanitation device* on any vessel subject to the provisions of this section." (emphasis added)

Section 312(f)(1)(A) indicates the express intent of Congress to preempt the *standards* for marine sanitation with certain limited exceptions, but since 1987 the statute has expressly permitted *state enforcement of Federal standards*. While enforcement was initially entrusted to the Coast Guard, the statute "left room" for exceptions to Federal enforcement in the houseboat and no-discharge area provisions of subsections (f)(1)(B) and (f)(3), and in subsection (k) for delegation of enforcement of states by cooperation agreements. In the 1987 amendment to Section 312(k) Congress expressly provided for independent state enforcement of Federal standards.

A complete prohibition of vessel discharges clearly falls under the category of regulating the use of MSDs. This further clarifies that only the Federal government may confer no-discharge status on coastal waters. As stated previously, however, once Federal approval has been received, enforcement of no-discharge areas is the primary responsibility of state and (if delegated) local authorities.

Enforcement Methods - Section 312(l)

In accepting responsibility for enforcement of these provisions, a state may further delegate enforcement authority to local enforcement officials such as police and conservation officers, harbor masters, and public health officials. Enforcement actions may simulate those taken by Coast Guard officials at the Federal level. According to Section 312(l):

"Anyone authorized by the Secretary of the department in which the Coast Guard is operating to enforce the provisions of this section may, except as to public vessels, (1) board and inspect any vessel upon the navigable waters of the United States and (2) execute any warrant or other process issued by an officer or court of competent jurisdiction."

Officials charged with enforcing no-discharge areas elsewhere in the country have developed innovative enforcement methods. One such method involves placing fluorescent dye tablets in the holding tanks and marine heads of vessels. If the head is discharged illegally within the no-discharge area, the effluent is readily identifiable and penalties can be assessed. Officials in Avalon Harbor, California have issued 132 citations for illegal discharges since their dye tablet program was initiated in 1988, and the number of violations has been steadily decreasing. Another method involves securing the Y-valve (which allows direct overboard discharges) in a closed position when in the designated area. Marinas and other boating facilities located within no-discharge areas can prohibit sewage discharges and require the use of pump-out facilities as a condition for mooring and slip rentals. On New Hampshire's Lake Winnepesaukee, marina operators are held accountable by state law for launching boats which are capable of discharging sewage wastes.

An important component of any enforcement program is informing boaters and marina/docking facility operators of the regulatory requirements. Educational strategies include: (1) posting large signs visible to boats entering or moored in the harbor area stating that the harbor is a no-discharge area; (2) providing boaters with written notices of the harbor's no-discharge status when collecting mooring fees; and (3) listing the locations of coastal no-discharge areas and pump-out facilities in boater safety and educational brochures distributed to boaters through vessel registration programs and with other mailings which target boaters. Coast Guard Auxiliary, Power Squadron, and local boating association safety courses can incorporate environmental education on proper MSD use and provide information regarding the location of no-discharge areas.

Summary

- * Section 312(f)(1)(A) expressly preempts state legislation setting state standards for the design, manufacture, installation, or use of a MSD on any vessel.
- * As amended in 1987, Section 312(k) permits states to enact state laws to enforce *Federal standards* with respect to design, manufacture, installation, or use of a MSD for all vessels.

- * These state statutes must incorporate the exact standards provided in Section 312 of the Clean Water Act.
- * As a normal aspect of enforcement states may assess their own penalties for violations under state law of Federal marine sanitation standards.
- * Section 312(k) *does not* authorize the political subdivisions of states to enact ordinances to enforce Federal MSD standards or to assess penalties.
- * By their statutes states may delegate the authority given to them by Section 312(k) to help enforce Federal marine sanitation standards to local police, harbor masters, and other enforcement personnel.
- * Although political subdivisions of states may not assess their own penalties, *states may share the penalties which they assess* for violations of their laws enforcing Federal marine sanitation standards *with those subdivisions and law enforcement agencies to whom they have delegated their enforcement authority.*
- * Only no-discharge areas approved by EPA are legally enforceable; once EPA approval has been received, enforcement is the primary responsibility of state and (if delegated) local officials.

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Appendix A

Common questions related to the use of MSDs and no-discharge areas.

- 1) Q: What waters are eligible for no-discharge status?
A: All navigable waters of the United States are potentially eligible for no-discharge status.
- 2) Q: Who can confer no-discharge status on coastal waters?
A: The EPA Regional Administrator for the EPA Region in which the no-discharge area is sought.
- 3) Q: Who can prepare and submit a no-discharge area application?
A: Anyone may prepare an application, but it must be signed and submitted by the governor or chief environmental official of the state in which the prohibition is being sought. If the proposed no-discharge area includes waters under the jurisdiction of more than one state, the governors or chief environmental officials from each of the states must sign the application. All no-discharge applications shall be submitted to the Regional Administrator for the EPA Region in which the no-discharge area is being sought.
- 4) Q: What information must be included in the application?
A: The minimum requirements are described in 40 CFR Part 140.4(a). These requirements and suggested additional information are described in further detail in this guidance document. If you would like to see examples of previous no-discharge area applications, contact EPA Region I or water quality officials from those states where Federal no-discharge areas have been conferred for coastal waters (e.g., California and Florida).
- 5) Q: Can treated boat sewage be discharged in a no-discharge area?
A: No. The discharge by vessels of all sewage, whether treated or not, are prohibited in a federally designated no-discharge area. Y-valves for through-hull discharges must be set in the closed position and must be secured. Type I and II MSDs cannot be used, and portable toilets must be emptied in shoreside restrooms or dump-out facilities.
- 6) Q: What is "graywater," and are discharges of "graywater" prohibited in a no-discharge area?
A: Graywater is defined in Section 312(a)(11) as "galley, bath and shower water." Discharges of graywater are not prohibited in no-discharge areas designated pursuant to Section 312(f)(3).
- 7) Q: I want to do the right thing, but I can't find a pump-out facility. What should I do?

- A: Use marinas that provide pump-out services. Also, seek out and use shoreside facilities. Regionally, EPA is encouraging the installation of pump-outs facilities at both private and public docks and marinas. Several New England states have in place or are proposing policies or regulations that will lead to an increased number of pump-out facilities. One of the reasons marinas don't provide pump-out services is because they claim there is no demand for them - demand them! The Clean Water Act requires untreated wastes (those that pass directly through the hull without any treatment) to be discharged outside the three-miles territorial water limit. If you have a holding tank and no pump-out facilities exist in your boating area, and your boating area is *not* a no-discharge area and you must discharge sewage, you must do so at least three miles from shore. If you have a Type I or II MSD, you should discharge in an area of great dilution and flushing, and away from any swimming beaches, shellfishing areas, or other important resource areas.
- 8) Q: How much does it cost to install an MSD on my boat?
A: Holding tanks start at around \$100. By comparison, treatment/discharge systems classified as Type I or II MSDs start at \$600.
- 9) Q: If additives are toxic to the environment, what can boaters and marina operators do?
A: There are now additive products on the market that are alcohol-based and are the most environmentally benign products available. Marina operators can choose to sell only those additives that contain non-toxic ingredients.
- 10) Q: How much does it cost for a marina to purchase and install a pump-out facility?
A: Costs for the pump-out assembly alone range from under \$500 for a manual version to \$2500-3500 for electric powered units. The total installed cost of most commercially manufactured systems ranges from \$4000 to \$8000. Inexpensive "home-made" systems can also be built for marinas that service a small number of boats with holding tanks.

Appendix B

List of Federal and state agency contacts for questions about MSD laws, regulations, and standards.

U.S. Environmental Protection Agency

Mel Cote
EPA Region I
JFK Federal Building - WQE 425
Boston, MA 02203
(617) 565-4870

Jonathan Amson
U.S. EPA
WH-556F
M Street, NW
Washington, DC 20460
(202) 475-7125

U.S. Coast Guard

Lt. Robert Hazelton
First Coast Guard District (mep)
Capt. John Foster Williams Bldg
Atlantic Ave.
Boston, MA 02210-2209
(617) 223-8083

Chief Robert Haggerty
U.S. Coast Guard
Marine Safety Office - Providence
John O. Pastore Federal Bldg
Providence, RI 02903-1790
(401) 528-5335

Lt. Erik Washburn
Cape Cod Detachment
USCG Marine Safety Office
USCGAS Building 3434
Otis ANGB, NXA 02542-5024
(508) 968-5556

Lee Doggett
Casco Bay Estuary Project
Dept. of Environmental Protection
312 Canco Road
Portland, ME 04103
(207) 879-6300

Deerin Babb-Brott
Southern Maine Regional Planning 401
Commission
P.O. Box Q
Sanford, ME 04073
(207) 324-2952

New Hampshire

Richard Flanders, Supervisor
NH DES
Division of Water Supply and 408
Pollution Control
Water Quality Section
P.O. Box 95, 6 Hazen Dr.
Concord, NH 03301
(603) 271-3571

Don Chesebrough
NH DES
Division of Water Supply and
Pollution Control
Water Quality Section
P.O. Box 95, 6 Hazen Dr.
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(603) 271-3571

Maine

Henry Nichols
DECD
Maine Coastal Program
State House Station 130
Augusta, ME 04333
(207) 289-6800

Rhode Island

Joe Migliore
R-1 DEM
Division of Water Resources
291 Promenade Street
Providence, RI 02908
(401) 277-3961

Jeff Willis
RI Coastal Resources Management Council
Oliver Steadman Government Center
4808 Tower Hill Rd.
Wakefield, RI 02879
(401) 277-2476

Massachusetts

Brian Donahoe, Director
MA DEP
Division of Water Pollution Control
1 Winter Street
Boston, MA 02108
(617) 292-5635

Jan Smith
Massachusetts Coastal Zone Mgmt
100 Cambridge Street, 20th Floor
Boston, MA 02202
(617) 727-9530

Connecticut

Paul Stacey
CT DEP
Bureau of Water Quality
122 Washington St.
Hartford, CT 06106
(203) 566-7049

Christine Olson
CT DEP
Bureau of Water Quality
122 Washington St.
Hartford, CT 06106
(203) 566-6690

List of other contacts with information on MSDs and no-discharge areas.

Jay Tanski
New York Sea Grant Extension Program
Nassau Hall, Room 125
State University of New York
Stony Brook, NY 11794-5002
(401) 792-6224

Nell Ross
International Marina Institute
35 Steamboat Ave.
Wickford, RI 02852
(401) 294-9558

Note: For further information on any issues raised in this document, or copies of cited articles, contact Mel Cote at EPA Region I at (617) 565-4870.

Appendix D

New Hampshire Classification of Water Bodies

Appendix D

New Hampshire Classification of Water Bodies

Class B Waters

Class B waters "shall be of the second highest quality and shall have no objectionable physical characteristics, shall contain a dissolved oxygen content of at least 75 percent of saturation, and shall contain not more than either...126 *Escherichia coli* per 100 milliliters, or greater than 406 *E. coli* per 100 milliliters.... There shall be no disposal of sewage or waste into said waters except those which have received adequate treatment to prevent the lowering of the biological, physical, chemical or bacteriological characteristics below those given above, nor shall such disposal of sewage or waste be inimical to aquatic life.... [These] waters shall be considered as being acceptable for fishing, swimming and other recreational purposes and, after adequate treatment, for use as water supplies...."

Class C Waters

"The waters in temporary partial use areas established under paragraph II [Class B] shall be free from slick, odors, turbidity, sludge deposits, and surface-floating solids of unreasonable kind or quantity, shall contain not less than 5 parts per million of dissolved oxygen...and shall be free from chemicals and other materials and conditions inimical to aquatic life or the maintenance of aquatic life. These criteria shall apply during combined sewer overflow discharges and up to 3 days following cessation of said discharge.... At all other times the standards and uses specified in paragraph II [Class B] shall apply....

Appendix E

Maryland's 'Trial Balloon': Methodology for the Determination of "No Discharge" Zones

Appendix E

Maryland's 'Trial Balloon': Methodology for the Determination of "No Discharge" Zones

Area Identification

Clearly describe the boundaries of the area under consideration.

Area Description

Describe the vessel population and vessel usage of the specified area.

Certification

Provide a statement justifying the need for a "No Discharge" zone. Include any sensitive area factors that deserve special consideration. This would include, but is not limited to, factors noted in the Maryland Department of Natural Resources report, "Sensitive Areas in the Chesapeake Bay, Tributaries and Coastal Bays."

There may be special circumstances when a resource sensitive area should be designated a "no discharge" zone even though no pump-out exists in the vicinity - e.g. an estuarine sanctuary. In such cases, the areas are pristine and unpopulated by boats and it should not be necessary to meet the below criteria to qualify for "no discharge" designations.

Pump-out Facility Qualifications

Only pump-out facilities that fit four criteria qualify for consideration:

- The pump-out facility must have at least 5' of water at the pump-out.
- The fee for a pump-out must not be greater than \$15.00.
- The pump-out must be open at least 6 days a week, eight hours a day. Additionally, the pump-out must be open Friday, Saturday and Sunday.
- The treatment of all waste at the pump-out facility must be in compliance with federal law.

Pump-out-Availability

Utilizing only facilities that meet all the above criteria, three pump-out availability factors are rated to determine a percentage score for overall eligibility as a "No Discharge" zone:

- Pump-outs/Homeported Vessels (>24') 100 points
 - Pump-out Proximity 100 points
 - Waiting Time 100 points
- 300 points = 100%

- Pump-outs/Homeported vessels (>24') ratio:

<u>Ratio</u>	<u>Points</u>
1/1 - 1/50	100
1/51 - 1/100	90
1/101 - 1/150	80
1/151 - 1/200	70
1/201 - 1/250	60
1/251 - 1/300	50
1/301 & Below	0

- Pump-out Proximity:

Utilizing information on all marinas within the proposed "No Discharge" area (including the numbers of wet and dry slips and moorings), determine the distance 90% of the vessels need to travel to be pumped out. Explain any special circumstances (such as a marina that is normally passed by vessels from more distant marinas).

<u>Distance to P/O</u>	<u>Points</u>
0 - 2 Miles	100
>2 - 3 Miles	90
>3 - 4 Miles	80
>4 - 5 Miles	70
>5 Miles	0

- Waiting Time:

Utilizing 4:00 pm - 7:00 PM on Sundays as the peak hours for vessels to pump out,

determine the approximate waiting time for a vessel requiring a pump-out. The following "worst case" assumptions are made:

- The boating season is 26 weeks (April 15 - October 15).
- All vessels >24' are assumed to have holding tanks.
- Each Vessel >24' will be pumped out 4 times per season (every 6.5 weeks).
- Each pump-out will take 15 minutes.
- 25% (1/4) of the vessels will be pumped out between 3 pm and 7 pm on Sundays. The other 75% (3/4) will be pumped out during all other times. Waiting time, therefore, is most critical during Sunday afternoons.

Utilizing the above assumptions, factor the number of homeported vessels >24' and the number of available pump-outs (with their operating hours) to determine an estimated waiting time:

<u>Waiting Time</u>	<u>Points</u>
0 - 5 minutes	100
>5 - 10 minutes	90
>10 - 15 minutes	80
>15 - 20 minutes	70
>20 minutes	0

Area Identification

This "No Discharge" zone "trial balloon" application is for inside the area from a point in latitude 39°08'43.0"N, longitude 76°16'42.5"W (Swan Point) 262° true to a point in latitude 39°08'25.4"N, longitude 76°19'22.2"W (Buoy R "10" QR), thence 155° true to a point in latitude 39°06'36.5"N, longitude 76°18'15.4"W (Buoy G "7" F1 G 6), thence 079° true to a point in latitude 39°07'07.7"N, longitude 76°14'51.4"W (Huntingfield Point), thence along the shore to the point of origin, latitude 39°08'43.0"N, longitude 76°16'42.5"W (Swan Point).

This area includes Tavern Creek, Swan Creek/The Haven, Rock Hall Harbor, Huntingfield Creek and the described portion of the Chesapeake Bay (to the ship's channel).

Area Description

In the described area, there are 422 homeported vessels >24' and a total of 1,335 slips/moorings available at 14 marinas.

Certification

The entire Chesapeake Bay and its tributaries are in need of the extra protection afforded by a "No Discharge" zone. Specific sensitive area factors in the subject area include high vessel density, oysters, blue crabs and SAV. Additionally this area is a spawning and nursery area for bay anchovy and Atlantic menhaden.

Pump-out Facility Qualifications

There are four pump-out facilities in the subject area. All are open 7 days a week, at least 8 hours a day. The maximum price charged for a pump-out is \$5.00 and each has at least 6 feet of water at the pump-out. Three of the pump-out facilities were pump-out grant participants and are, therefore, in compliance with federal law. Sewage treatment at the fourth marina (Haven Harbor) is unknown. However, this would be checked prior to submitting a "No Discharge Zone" application.

Pump-out Availability

- Pump-outs/Homeported Vessels (>24') ratio:

<u>Body of Water</u>	<u>Vessels >24'</u>	<u>Pump-outs</u>
Rock Hall Harbor	245	2
Swan Creek/The Haven	177	2
Huntingfield Creek	0	
Tavern Creek	<u>0</u>	
	422	4

- Ratio of Pump-outs/Homeported Vessels (>24') - 1/105.5

- Pump-out Proximity

	<u>Facility</u>	<u>Body of Water</u>	<u>#Slips/ Moorings</u>	<u>Pump-out On-Site</u>
1)	Swan Creek Marina Yard A	Swan Creek	141	
1A)	Swan Creek Marina Yard B	Swan Creek	31	
1B)	Spring Cove Public Landing	Swan Creek/ The Haven	0	
1C)	Spring Cove Marina	Swan Creek/ The Haven	120	
2)	Gratitude Boat Sales	Swan Creek	38	
3)	Gratitude Marina	Swan Creek	100	1
4)	Haven Harbor Marina	Swan Creek/ The Haven	200	1
5)	Rock Hall Marine Railway	Rock Hall Harbor	30	
5A)	Pelorus Marina, Inc.	Chesapeake Bay at Rock Hall Harbor	50	1
5B)	Fin, Fur & Feather	Rock Hall Harbor	8	
5C)	Cain's Wharf	Rock Hall Harbor	28	
5E)	Windmill Point Marina	Rock Hall Harbor	149	
6A)	The Sailing Emporium	Rock Hall Harbor	150	
6B)	Rock Hall Landing Marina	Rock Hall Harbor	130	1
6C)	County Launching Ramp	Rock Hall Harbor	0	
7)	Osprey Point Marina	Swan Creek/ The Haven	<u>160</u> 1335	4

- Of the 1335 total available slips/moorings, 480 (36%) are located directly at pump-out facilities.
- All other marinas are located within two miles of a pump-out facility.
- Score: 100 points

Waiting Time

- Homeported vessels >24' - 422.
- Total number of times these vessels will be pumped out - 1,688 (422 vessels X 4 pump-outs per season).
- Total number of times vessels will be pumped out on Sunday afternoons - 422 (1,688 X 1/4).
- Total number of pump-outs every Sunday - 16 (422 total pump-outs divided by 26 weeks).
- Number of marinas with pump-outs - 4.
- Number of Sunday afternoon pump-outs per marina - 4.
- Number of total hours doing pump-outs (for all marinas with pump-outs) each Sunday afternoon - 4 (16 pump-outs X 15 minutes per pump-out).
- Average time per marina doing pump-outs - 1 hour.
- Pump-out facility information:
 - Sunday afternoon closing times:

- Gratitude Marina-	5:00 pm
- Haven Harbor Marina -	5:00 pm
- Rock Hall Landing Marina -	6:00 pm
- Pelorus Marina -	5:00 pm
- 9 total hours of pump-out service is available from these four marinas on Sunday afternoons between 3:00 - 6:00 pm. See below:

Gratitude -	2 hours
Haven Harbor -	2 hours
Rock Hall Landing -	3 hours
Pelorus -	<u>2</u> hours
	9 total hours

- Waiting Time Summary & Conclusion:

- In Rock Hall, approximately 16 vessels will be pumped out every Sunday from 3:00 pm - 6:00 pm during the boating season.
- With 4 pump-out facilities in Rock Hall, each marina will do 4 pump-outs during this time period.
- With each pump-out taking 15 minutes, each marina will be devoting one hour to pump-outs. For three of the marinas, there will be an additional hour when no vessels will be using the pump-out and for the fourth marina there will be two hours when the pump-out facility will not be used.
- With the pump-out facilities being in use only 1/3 to 1/2 of the available hours on Sunday afternoons, waiting time for a vessel to get pumped out is estimated at no longer than 10 - 15 minutes. Waiting time during other operating hours should be insignificant.
- Score: 80 Points

Summary

<u>Criteria</u>	<u>Raw Score</u>	<u>Points</u>
- Pump-outs/Homeported Vessels (>24')	1/105.5	80
- Pump-out Proximity	100% of slips/ moorings within 2 miles	100
- Waiting Time	10 - 15 minutes	$\frac{80}{260/300} = 87\%$

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